DOCUMENT RESUME

ED 198 447 CG 014 981

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TITLE Self-Control Processes in Depressed and Nondepressed Psychiatric Patients: Self-Evaluation.
PUB DATE Sep 79
NOTE 26p.: Paper presented at the Annual Convention of the American Psychological Association (87th, New York, NY, September 1-5, 1979).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Achievement Need; Aspiration; *Attribution Theory; *Depression (Psychology); *Expectation; Foreign Countries; *Individual Power; Participant Satisfaction; Patients; Performance Factors; *Self Control; *Self Evaluation (Individuals); Success
IDENTIFIERS *Canada

ABSTRACT

A cognitive/behavioral model of depression emphasizing the self-control processes of self-monitoring, self-evaluation, and self-reinforcement views self-control as a set of processes by which an individual maintains responses in the relative absence of immediate external reinforcement. The relationship between self-evaluation, attributional style, and clinical depression was examined for 19 depressed and 12 nondepressed psychiatric inpatients and 16 nondepressed nonpsychiatric controls. Subjects were administered a verbal recognition task to assess their self-evaluation patterns. The results offered only partial support for the self-control model of depression. The depressed patients demonstrated lower expectations for their performance prior to undertaking the task, lower estimations of their performance following the task, and lower levels of satisfaction with their task performance than the nondepressed nonpsychiatric controls. Their performance on these measures, however, was indistinguishable from that of the nondepressed patients, thereby raising questions regarding the specificity of self-evaluation deficits to depression. Results suggest that the validity of conceptualizing clinical depression may be only quantitatively different from mild depression due to the implications of experimentally manipulating success and failure experiences. (Author)

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Self-Control Processes in Depressed and Nondepressed Psychiatric Patients: Self-Evaluation

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CG014981

Paper presented at the 87th Annual Convention of the American Psychological Association, New York, 1979

Self-Control Processes in Depressed and

Nondepressed Psychiatric Patients: Self-Evaluation

Of all the psychiatric symptoms, depression is by far the most common (Shave, 1974). It has been described as a clinical syndrome for over 2,000 years, and yet our theoretical and empirical knowledge and understanding of its etiology, characterization, treatment and prevention remains conspicuously limited. In contrast to early psychological theories of depression which focused on such intrapsychic dynamics as introverted hostility and the concept of "loss" (e.g., Abraham, 1911/1960; Freud, 1917/1950), more recent attempts to augment our knowledge of this disorder have emphasized the importance of behavioural and cognitive factors.

A cognitive model of depression, based on Kanfer's (1971, 1977) closed-loop learning model of self-control, has recently been proposed by Rehm (1977). Kanfer views self-control as a set of processes by which an individual maintains responses in the relative absence of immediate external reinforcement. Rehm argues that Kanfer's model of self-control may serve as an heuristic model for the study of depressive etiology, symptomatology and treatment, and suggests that specific deficits at different stages of self-control may result in the specific manifestations of depression.

One of the processes postulated to be integral to Kanfer's (1971, 1977) model of self-regulation is self-evaluation. Self-evaluation, according to Rehm (1977), refers to a comparison between an estimate of performance (which derives from self-monitoring) and an internal criterion or standard. In terms of self-evaluation, nondepressed persons set realistic, attainable, explicit criteria for their behaviour. They objectively evaluate their ongoing actions by comparing their self-monitored behaviour to these preset criteria. Rehm

hypothesizes that depressed individuals, in contrast, set unrealistic, perfectionistic, global standards for themselves, making attainment improbable. As a consequence, depressed persons often do not succeed in reaching their goals, and therefore evaluate themselves negatively. In other words, depressed persons may perform as well as nondepressed individuals, but because their goals are unrealistically high, the depressed persons consider their performance to be inadequate, or a failure. Furthermore, depressed persons may not accurately attribute responsibility or causality for their performance, but may distort their perception of causality in order to denigrate themselves. If their performance is successful, for example, depressed persons may attribute their success to external factors such as luck and the simplicity of the task, while the cause of an unsuccessful performance may be attributed to internal factors such as lack of skill and effort. In sum, then, Rehm suggests that the self-evaluative processes of depressed individuals can be characterized as maladaptive in two respects. First, depressed persons tend to set stringent criteria for self-evaluation, and second, depressed persons frequently fail to make accurate attributions of causality. These characteristic styles of self-evaluation -- two frequently cited symptoms of depression (e.g., Beck, 1967; Chodoff, 1970; Golin and Terrell, 1977).

Because of its recency, Rehm's (1977) self-control model of depression has not generated a great number of empirical studies. There are, however, several investigations which are relevant to Rehm's formulations concerning self-evaluation processes in depression. For example, Rehm has emphasized the importance of stringent criteria for self-evaluation in depressed individuals, a characteristic that has been previously related to depression by Marston (1965) and Bandura (1971). Self-evaluative standards may be stringent in more than one sense. Criteria for positive self-evaluation may

be stringent, for example, in the sense of a high threshold requiring great quantitative or qualitative excellence for self-approval. Diggory (1966) reported that the "level of aspiration" of depressed patients on a laboratory task was consistently higher than their level of performance. Similarly, Golin and Terrell (1977) and Schwartz (1974) found that, compared to nondepressed university students, depressed students tend to set higher goals for themselves with respect to both academic and laboratory task performance. Because the depressed subjects set higher goals for themselves, they are less likely than nondepressed subjects to perceive their performance, though equal to that of their nondepressed counterparts, as successful (c.f., Friedman, 1964). In addition to a high threshold for self-approval, Rehm suggests that depressed persons may also have low thresholds for negative self-evaluation. Although these criteria may be relatively independent, clinical observation (e.g., Beck, 1967) suggests that for some depressed persons, the threshold required for positive self-evaluation and that necessary for negative self-evaluation may be one and the same. These depressed individuals, then, would have "all or none" self-evaluative criteria, i.e., an effort is either a smashing success or a dismal failure.

The second way in which self-evaluative processes of depressed persons can be characterized as maladaptive concerns their attributional styles; Rehm (1977) argues that depressed individuals frequently fail to make accurate causal attributions. Several studies which have investigated the manner in which normals (nondepressives) attribute the cause for their successes and failures speak to this postulation. Fitch (1970), Frieze and Weiner (1971), and Luginbuhl, Crowe, and Kahan (1975), for example, have suggested that normals tend to assume more personal responsibility for success than for failure; that is, they tend to attribute success to internal causes (e.g., to ability and effort) and failure to external causes (e.g., to luck or task

difficulty). This pattern of internal-external attributions is often interpreted as evidence consistent with a self-serving biases hypothesis (Miller, 1976; Stevens and Jones, 1976). Internal attributions for success are presumed to be self-enhancing, whereas external attributions for failure are believed to be self-protective.

Recent evidence suggests, however, that depressed individuals may make causal attributions for success and failure which are not in accord with the internal-external pattern predicted by the self-serving biases hypothesis. Klein, Fencil-Morse, and Seligman (1976), for example, suggest that depressed persons make internal rather than external attributions for failure. This possibility is quite compatible with the self-blame and guilt components of depression discussed by many clinicians and researchers (e.g. Abramson and Sackeim, 1977; Beck, 1967; Costello, 1976).

There is evidence to suggest that depressed individuals may also differ from nondepressed persons in their causal attributions for a successful outcome of their performance. Taking personal credit for success would be self-enhancing, and would stand in contrast to the low self-esteem and negative self-concept often cited as prominent features of depression (c.f., Beck, 1967). Furthermore, several studies have indicated that an unexpected success is attributed more externally than an expected success (Feather and Simon, 1971). Given the pessimistic outlook of the depressed individual, it is likely that an experience of success would indeed be unexpected, and therefore attributed to external, as opposed to internal factors.

Two recent studies have examined the causal attributions for success and failure in depressed individuals. Kuiper (1978) administered either 20%, 55%, or 80% reinforcement to depressed and nondepressed female university students on a word association task. Kuiper found that the nondepressed students, in

accord with the self-serving biases hypothesis, made internal attributions for a successful outcome and external attributions for a failure outcome. Depressed students, on the other hand, made internal attributions for both success and failure outcomes. Although the depressed students' tendency to attribute failure to internal factors is consistent with the self-blame observed in depressed individuals, the fact that the depressed students also attributed success to internal factors is an unexpected finding. Kuiper suggests that these findings may reflect a tendency for depressed persons to make personal causal attributions, regardless of performance on a task.

A similar investigation by Rizley (1978) provides partial support for Kuiper's (1978) postulation. Rizley examined the causal ascription of depressed and nondepressed university students for success and failure on an impersonal number-guessing task. The results suggested that the depressed students rated internal factors to be more important causal determinants of failure but less important determinants of success than did the nondepressed students.

Although these studies provide some support for the nature of the self-evaluation processes postulated in Rehm's (1977) self-control model of depression, their conclusions must be tempered by their methodological limitations. Investigations in this area, for example, have typically used depressed and nondepressed university students as subjects. These students were exhibiting at best (or, more aptly, at worst) only mild depressive symptomatology, and several investigators have recently questioned the applicability of results obtained with mildly depressed university students to a clinically depressed population (c.f., Buchwald, Coyne, and Cole, 1978; Depue and Monroe, 1978; Gotlib and Asarnow, 1979). A second limitation of research in this area concerns the method of examination of attributional processes. These studies typically involve the experimental manipulation of success or failure and,

therefore, of the resultant attributions (c.f., Klein et al., 1976; Luginbuhl et al., 1975). Subjects, particularly Klein et al.'s depressives, are "forced" into attributing their "success" or "failure" to internal or external factors, and these attributions may not represent these subjects' typical patterns of attributions. These studies have not investigated "naturally occurring" perceived success or failure and the related attributional processes. Finally, previous investigations of self-control processes in depression have examined the performance of only depressed and nondepressed subjects. This procedure leaves open the possibility that the obtained depression-associated deficits in self-control are a feature of psychopathology in general, rather than a characteristic unique to depression. It is important that these processes be investigated not only in depressed individuals and nondepressed "normals", but also in nondepressed individuals who are exhibiting other forms of psychopathology (e.g., nondepressed psychiatric patients).

The present study was designed to examine the relationship between attributional style, self-evaluation, and clinical depression in a population of depressed psychiatric inpatients. Furthermore, in order to assess the specificity to depression of any obtained deficits, these processes were also examined in a group of nondepressed psychiatric inpatients and a group of nondepressed "normals". The following predictions, derived from attribution theory and the self-control model of depression, were made:

1. Prior to undertaking the experimental task, depressed subjects will expect to make fewer correct choices than will subjects in either of the nondepressed groups.
2. On scales provided for subjects to rate their confidence in the accuracy of each of their 30 choices on the experimental task, depressed subjects, in contrast to subjects in the nondepressed

groups, will demonstrate a lower mean confidence rating over the 30 trials.

3. After completing the task, depressed subjects, relative to subjects in the nondepressed groups, will estimate making fewer correct choices and will indicate a lower level of satisfaction with their task performance.
4. In the absence of external feedback, a greater proportion of depressed subjects than nondepressed subjects will perceive their task performance to be a failure. Furthermore, depressed subjects will attribute success to external factors and failure to internal factors, while subjects in the nondepressed groups will attribute success to internal factors and failure to external factors.

Method

Subjects

Nineteen depressed and 12 nondepressed psychiatric inpatients at Kitchener-Waterloo Hospital, and 16 nondepressed nonmedical hospital employees served as subjects in the present study. The depressed group was comprised of eight males and 11 females, while the two nondepressed groups were each made up equally of males and females. Criteria for inclusion in the study for the two patient groups (adapted from Abramson, Garber, Edwards, & Seligman, 1978) were (a) current hospitalization between 3 and 35 days; (b) age between 18 and 60 years; (c) minimum of an eighth-grade education; and (d) no evidence of organicity, alcoholism, drug addiction, or psychotic ideation.

Group assignment for the patients was based on the psychiatric research diagnostic criteria of Feighner and his associates (Feighner, Robins, Guze, Woodruff, Winokur, & Munoz, 1972), and scores on the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, and Erbaugh, 1961) and the Hamilton Rating

Scale for Depression (HRSD; Hamilton, 1960). A psychiatric patient was classified as depressed if he or she (a) obtained a diagnosis of "definite" depressive syndrome according to the criteria of Feighner et al.; and (b) evidenced moderate to severe levels of depression, defined as a minimum score of 11 on the BDI and a minimum score of 14 of the HRSD. A psychiatric patient was classified as nondepressed if he or she (a) did not meet Feighner et al.'s criteria for a psychiatric diagnosis of either "definite" or "probable" depressive syndrome; and (b) obtained scores of nine or less on the BDI and 10 or less on the HRSD. The majority of the nondepressed patients had received psychiatric diagnoses of "personality disorder" and "anxiety neurosis".

Nonmedical hospital employees (e.g., accountants, cleaning staff, maintenance staff, secretarial staff, etc.) served as nondepressed normal control subjects. Criteria for inclusion in this group were (a) a BDI score of nine or less; and (b) no reported current or major past problems with depression.

Procedure

Potential subjects were assessed by a psychologist on the inpatient psychiatric unit according to the criteria outlined earlier. If the subjects met the required criteria, they were assigned to the appropriate group. Each subject participated in the study proper within two days of being assessed.

The task used was that developed by Bellack and Tillman (1974), and subsequently employed by Rehm and his associates in their work examining self-reinforcement processes in depression (e.g., Roth, et al., Note 1; Rozensky, et al., 1977). Briefly, the task procedure was as follows: 30 consonant-vowel-consonant nonsense syllables of medium association value (47% to 53%) were presented serially at two-second intervals by slide projector to each subject. Following a one-minute rest period, each subject was presented

with the first of 30 slides, each containing three syllables. For each slide, the subjects were required to identify the one syllable of the three presented that had appeared in the first list, and to rate aloud their confidence in the accuracy of their choice on a scale ranging from 1 to 10, on which "1" indicated "Certain my choice is wrong", "10" indicated "Certain my choice is right", and numbers from 2 to 9 indicated varying degrees of confidence that a choice was wrong or right.

In addition to this measure of self-evaluation, subjects were also asked to state, prior to undertaking the task proper, how many of the 30 syllables they expected to choose correctly. Following the task, subjects were requested to estimate the number of syllables they felt they chose correctly, and to rate on a 7-point scale their level of satisfaction with their overall performance on the task. Following these ratings, subjects were asked to indicate whether they considered their performance to be a success or a failure, and were then requested to indicate on 7-point scales the degree to which each of four possible causal factors (effort, luck, task difficulty, skill) contributed to their perceived success or failure.

Following the completion of these forms, each subject was debriefed as to the purpose of the investigation. Any questions concerning the study were answered fully, and all subjects were thanked for their participation.

Results

Subject Characteristics

Group means and standard deviations for scores on the Beck Depression Inventory (BDI) and the Hamilton Rating Scale for Depression (HRSD) as well as for the number of days in hospital prior to participation in the study and the number of previous psychiatric admissions to hospital, are presented in Table 1. A univariate analysis of variance (ANOVA) was conducted for

Insert Table 1 about here

scores on the BDI. As anticipated, significant group differences were obtained, F (2,44) = 71.25, $p < .001$. A Scheffe test of the difference between conditions indicated that subjects in the two nondepressed groups did not differ from each other, but both obtained significantly ($p < .001$) lower scores on the BDI than subjects in the depressed group. T-tests between the two patient groups were conducted for scores on the HRSD, as well as for the number of days in hospital prior to participation in the study, and the number of previous psychiatric admissions to hospital. As expected, the two patient groups differed with respect to their scores on the HRSD, t (29) = 8.36, $p < .001$. No group differences were found with respect to either the number of days in hospital prior to participation in the study, t (29) = 1.20, $p > .1$, or the number of previous psychiatric admissions to hospital, t (29) = 0.99, $p > .1$.

Self-evaluation and Depression

Means and standard deviations for the three groups on the measures to be discussed are presented in Table 2. The first prediction concerned

Insert Table 2 about here

performance expectations. It was predicted that the depressed subjects would expect to make fewer correct choices on the task than the nondepressed subjects. A univariate ANOVA was conducted on the number of expected correct choices, and a significant main effect for group was obtained, F (2,44) = 7.48, $p < .002$. A Scheffe test for the difference between conditions indicated that the depressed patients expected to make significantly fewer correct choices than the hospital employees; they did not differ on this measure from the nondepressed patients. This prediction, then, was only partially supported.

The second prediction stated that the depressed subjects, relative to subjects in the nondepressed groups, would demonstrate a lower mean confidence

rating over the 30 trials. A univariate ANOVA was conducted for the mean confidence rating over the 30 trials, and although the means for the three groups were in the predicted direction, the main effect for diagnostic group was not significant, F (2,44) = 1.82, $p > .1$. This prediction, then, was not supported.

The third prediction concerned perception of task performance and performance satisfaction. It was predicted that the depressed subjects, relative to subjects in the nondepressed groups, would estimate making fewer correct choices and would indicate a lower level of satisfaciton with their task performance. Univariate ANOVAs were conducted on the estimated number of correct choices and the level of satisfaction with performance. Before the results of these analyses are presented, however, it should be noted that a univariate ANOVA conducted on the number of correct choices failed to reveal significant group differences, F (2,44) = 1.88, $p > .1$. Group differences on the measures of satisfaction, then, will be independent of actual task performance.

A significant main effect for group was found with respect to the estimated number of correct choices, F (2,44) = 8.76, $p < .001$. A Scheffe test for the difference between conditions revealed that the depressed patients estimated making significantly fewer correct choices than the hospital employees. Again, the depressed patients did not differ significantly from the nondepressed patients. The univariate ANOVA conducted on the level of performance satisfaction yielded similar results. The depressed patients were significantly less satisfied with their performance than were the hospital employees [F (2,44) = 3.52, $p < .05$], but were statistically indistinguishable from the nondepressed patients on this measure. This prediction, then, received only partial support.

The final prediction stated that a greater proportion of depressed than nondepressed subjects would perceive their task performance to be a failure. It was further predicted that the depressed subjects would attribute their success to external factors and their failure to internal factors, while the nondepressed subjects would demonstrate the reverse pattern of attributions. A chi-square analysis conducted on the number of subjects in each group who considered their performance to be a success or a failure failed to reveal significant group differences, $\underline{X}^2$ (2) = 3.04, $\underline{p} > .1$. Group membership, then was not found to be related to perception of task performance as a success or a failure, and this component of the prediction was not supported.

The second component of this prediction concerned the attribution of success and failure. Scores on the two internal factors (effort and skill) were summed, as were scores on the two external factors (luck and task difficulty), and an internality score was computed for each subject by subtracting the total external from the total internal attribution score. Univariate ANOVAs were conducted on the internality scores for subjects who considered their task performance to be a failure, and for those who perceived their performance to be a success. The results of these analyses indicated that depressed subjects who considered their task performance to be a failure did not demonstrate significantly more internal attributions than did subjects in either of the nondepressed groups, $\underline{F}$ (2,20) = 0.017, $\underline{p} > .1$. Similarly, depressed subjects who considered their performance on the task to be a success did not differ significantly from the nondepressed subjects in the kind of attributions they made, $\underline{F}$ (2,21) = 0.625, $\underline{p} > .1$. An ANOVA conducted on the internality scores using both group assignment and success/failure as independent variables revealed a significant main effect for the success/failure condition, $\underline{F}$ (1,41) = 31.76, $\underline{p} < .001$. Neither the main effect for group

assignment, F (2,41) = 2.323, nor the interaction, F (2,41) = 3.079, reached statistical significance, both $ps > .1$. Inspection of the means in Table 2 reveals that, in accord with the self-serving bias hypothesis (Miller, 1976), subjects in all groups tended to attribute perceived success, more than perceived failure, to internal factors. This component of the prediction, then was not supported.

DISCUSSION

The results of the present study offer only partial support for the self-control model of depression. As predicted by the model, the depressed psychiatric inpatients, when compared to the nondepressed "normals", demonstrated lower expectations prior to undertaking a laboratory task, offered lower estimates of their performance following the task, and expressed less satisfaction with their performance. On all of these measures, however, the depressed patients performed no differently than a group of nondepressed psychiatric patients.

Previous investigations which have used only "depressives" and "normals" as subjects have obtained results similar to those found in the present study. Friedman (1964), for example, examined the performance of depressed patients and normals on 33 cognitive, perceptual, and psychomotor tasks, which yielded a total of 82 test scores for each individual. In addition, the two groups were compared on 77 items of the Clyde Mood Scale. Friedman reported that although significant differences were obtained between the self-descriptions of depressives and normals on 82% of the items of the mood scale, the depressed patients were significantly impaired on only 4% of the test scores, a finding which could have occurred by chance. Friedman concluded that, "the patients' self-evaluations ... are no reliable guides to their actual performance on tests" (p. 242).

A similar study was conducted by Loeb, Beck, and Diggory (1971), who administered a card-sorting task to depressed and nondepressed outpatients. Loeb et al. found that, although the depressed patients performed as well as the nondepressed patients, their estimate of their performance fell short of their actual card-sorting level. The results of these studies, taken collectively with the estimation differences between the depressed and the "normal" control groups in the present study, suggest a depression-associated deficit in self-evaluation. However, the fact that the performance of the nondepressed psychiatric group was no different than that of the depressed group tempers this conclusion. It may be argued that this finding is artifactual, that the group selection procedure used in the present study did not effectively separate depressed from nondepressed patients. The fact that the two patient groups were statistically different on no fewer than three separate measures of depression, however, weakens this argument considerably, and it appears that the impairments in the accuracy of self-evaluation postulated by the self-control model to be an attribute peculiar to depression may in fact be characteristic of psychopathology in general.

This possibility is strengthened when other lines of evidence are considered. For example, Rehm and Plakosh (1975) found that depressed university students, relative to nondepressed students, tended to attend selectively to immediate versus delayed outcomes of their behaviour, and Rehm (1977) subsequently incorporated this finding into his self-control model of depression. Shybut (1968), however, demonstrated that psychiatric patients, relative to normal controls, also exhibit a preference for immediate versus delayed gratification, suggesting that this tendency is a characteristic of global psychopathology. Finally, while Rehm discusses selective attention to negative events as a deficit in the self-monitoring of depressed individuals, O'Banion and Arkowitz (1977) have demonstrated that selective attention to

negative information is also characteristic of high socially anxious individuals. It is imperative, then, that future research in depression include a psychiatric control group if confident statements are to be made regarding the nature of specific processes active in depression.

The finding of a decreased expectancy in the depressed patients relative to the normal controls warrants further examination. Although this finding is corroborated by Loeb et al. (1971), who found that depressed patients had lower performance expectations than did nondepressed controls, several other studies have failed to find a depression-associated decrease in performance expectation. Golin and Terrell (1977), for example, found that depressed students did not differ from nondepressed students in their expectancy for success on a laboratory task. Similarly, Hammen and Krantz (1976) found equal expectations for success in mildly depressed and nondepressed college students on a task ostensibly assessing their therapeutic potential. These studies, then, found that depressed university students, at least before initiating a task, are as optimistic as their nondepressed counterparts. The discrepancy between the results of these studies and those of both Loeb et al. and the present study is not easily explained. The most obvious difference between the two groups of investigations lies in the subject populations. Golin and Terrell and Hammen and Krantz examined expectancy for success in mildly depressed university students. The subjects in Loeb et al.'s study and in the present investigation were clinically depressed psychiatric patients, individuals for whom depression presented a major problem. The different results obtained with the two subject populations raises questions concerning the validity of conceptualizing depression as falling along a "continuum of affect". It appears that there may be qualitative as well as quantitative differences between mild and clinical depression (c.f., Buchwald et al., 1978; Gotlib and Asarnow, 1979), and future research in this area may do well to address this issue.

The final issue examined in the present study concerned the perception of success or failure in the absence of external feedback, and the related attributional processes. In his formulation of the self-control model of depression, Rehm (1977) suggests that depressed individuals frequently fail to make accurate attributions of causality. More specifically, Rehm argues that, consistent with their low self-esteem and negative outlook, depressed persons tend to attribute success to external factors, while an unsuccessful performance may be attributed to internal factors.

This predicted pattern of attributions was not found in the present study. The attributions for success and failure made by the depressed patients were no different than those made by subjects in either of the nondepressed groups. All subjects were found to make attributions in a manner consistent with a self-serving bias hypothesis of attribution (c.f., Bradley, 1978), attributing success, more than failure, to internal causes. These results, while not supportive of the self-control model of depression, are not entirely inconsistent with the findings of previous attributional research. Kuiper (1978), for example, found that depressed university students attributed both success and failure to internal factors, and Fitch (1970), in a slightly different vein, found that both high and low self-esteem subjects attributed their success more to internal than to external factors. The major difference between the present study and earlier investigations of attributions for success and failure, aside from the difference in subject populations which was just discussed, lies in the fact that success/failure was not experimentally manipulated in the present study. In the absence of external feedback, subjects were allowed to set their own standards for determining success or failure, and it appears that, contrary to the self-control model of depression, the probability of depressed subjects perceiving their performance as a failure is no greater than that for nondepressed subjects. The paradigm used in the present study to examine "naturally-occurring" rather

than "forced" success or failure and the resultant attributions has not been used previously, and may have erased potential group differences. Given the large number of investigations which have experimentally manipulated success and failure, future research might profitably examine more explicitly the differences between "naturally-occurring" and "forced" attributions.

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Footnote

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		DEPRESSED PSYCHIATRIC PATIENTS	NONDEPRESSED PSYCHIATRIC PATIENTS	NONDEPRESSED NONPSYCHIATRIC CONTROLS
Number of expected correct responses	$\bar{x}$	14.42	16.17	19.94
	sd	5.08	3.79	3.38
Mean overall confidence rating	$\bar{x}$	6.74	7.04	7.45
	sd	1.35	0.74	1.02
Number of estimated correct responses	$\bar{x}$	10.68	12.92	16.25
	sd	3.93	2.87	4.54
Level of satisfaction	$\bar{x}$	3.32	3.42	4.63
	sd	1.60	1.08	1.78
"Success" subjects	Number	8	5	11
	Percent	42.10	41.70	68.80
"Failure" subjects	Number	11	7	5
	Percent	57.90	58.30	31.30
Internality score - success Ss -	$\bar{x}$	3.50	4.40	5.00
	sd	3.38	3.21	2.32
Internality score - failure Ss -	$\bar{x}$	-1.00	-1.29	-1.20
	sd	4.17	2.81	1.48

TABLE 2

Means and standard deviations for the three groups on the measures of self-evaluation.

	Depressed Psychiatric Patients		Nondepressed Psychiatric Patients		Nondepressed Hospital Employees	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
BDI	25.79	8.90	6.42	2.64	3.00	1.73
HRSD	23.21	6.19	7.25	2.83	----	----
Days in Hospital	11.11	6.50	16.08	16.27	----	----
Previous Admissions	0.79	1.03	0.42	1.00	----	----

TABLE 1

Means and standard deviations of depressed and nondepressed psychiatric patients and nondepressed hospital employees on the BDI, the HRSD, number of days in hospital prior to study, and number of previous admissions